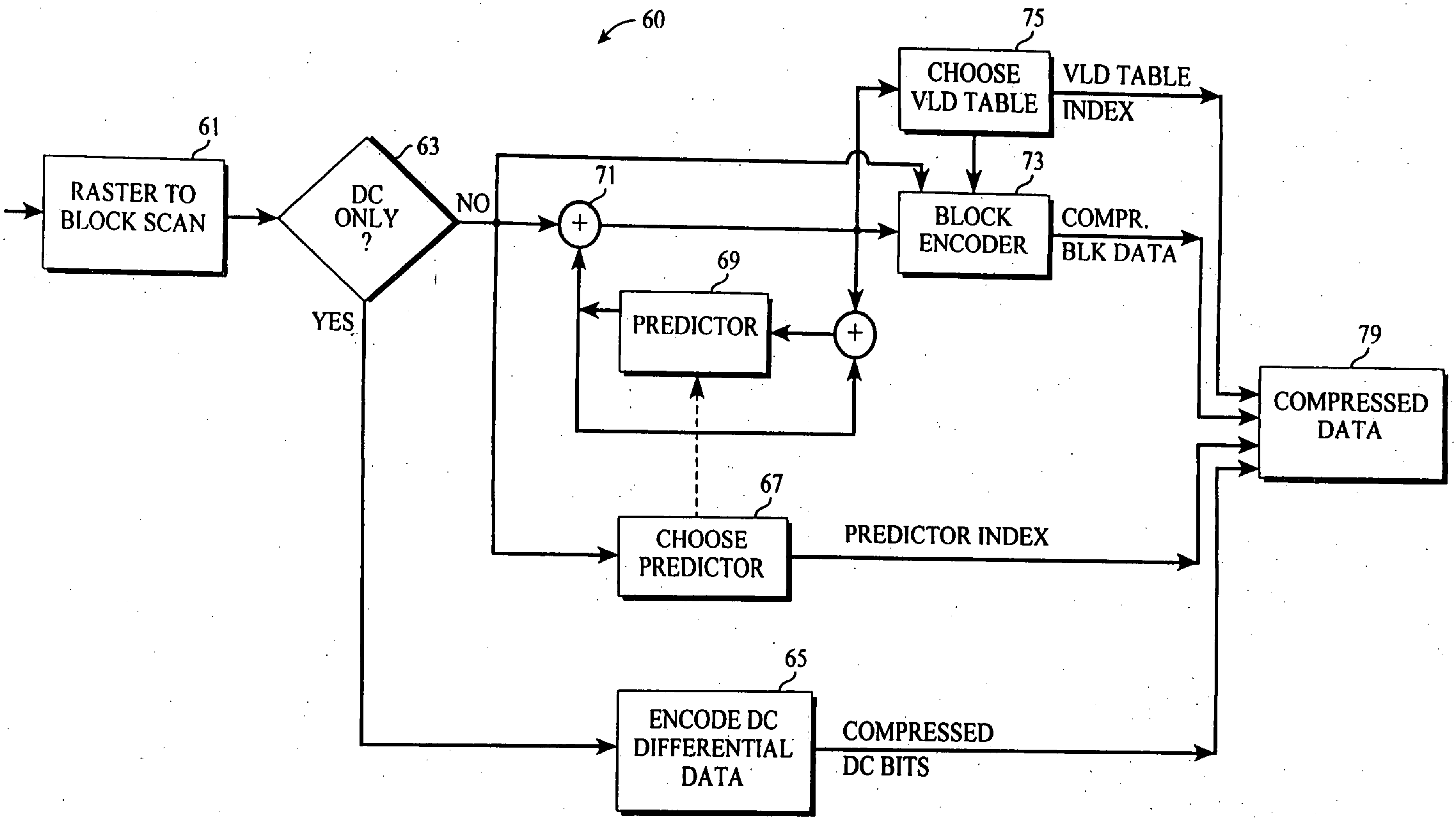

60
61
RASTER TO BLOCK SCAN
63
DC ONLY ?
NO
YES
71
69
PREDICTOR
67
CHOOSE PREDICTOR
PREDICTOR INDEX
65
ENCODE DC DIFFERENTIAL DATA
COMPRESSED DC BITS
75
CHOOSE VLD TABLE
VLD TABLE INDEX
73
BLOCK ENCODER
COMPR. BLK DATA
79
COMPRESSED DATA

Fig. 1A

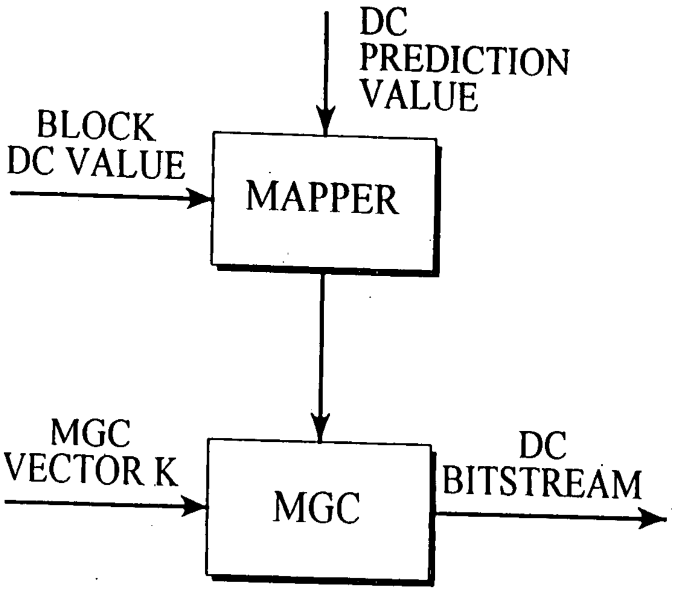

DC
PREDICTION
VALUE
BLOCK
DC VALUE
MAPPER
MGC
VECTOR K
MGC
DC
BITSTREAM

Fig. 1B

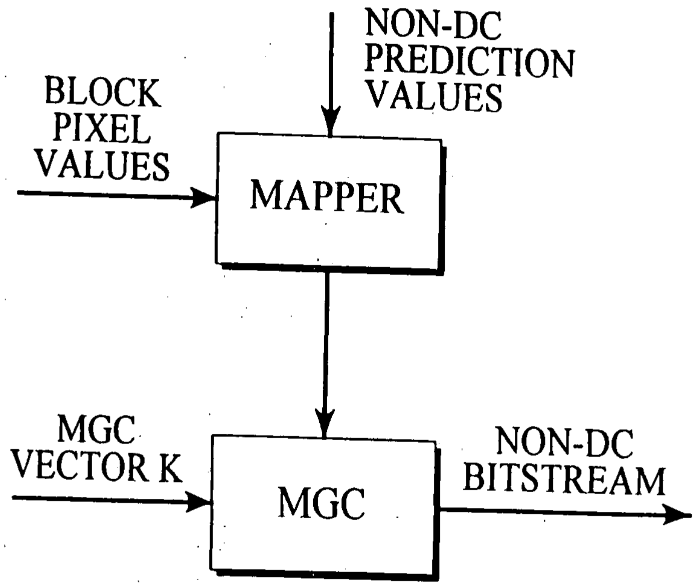

NON-DC
PREDICTION
VALUES
BLOCK
PIXEL
VALUES
MAPPER
MGC
VECTOR K
MGC
NON-DC
BITSTREAM

Fig. 1C

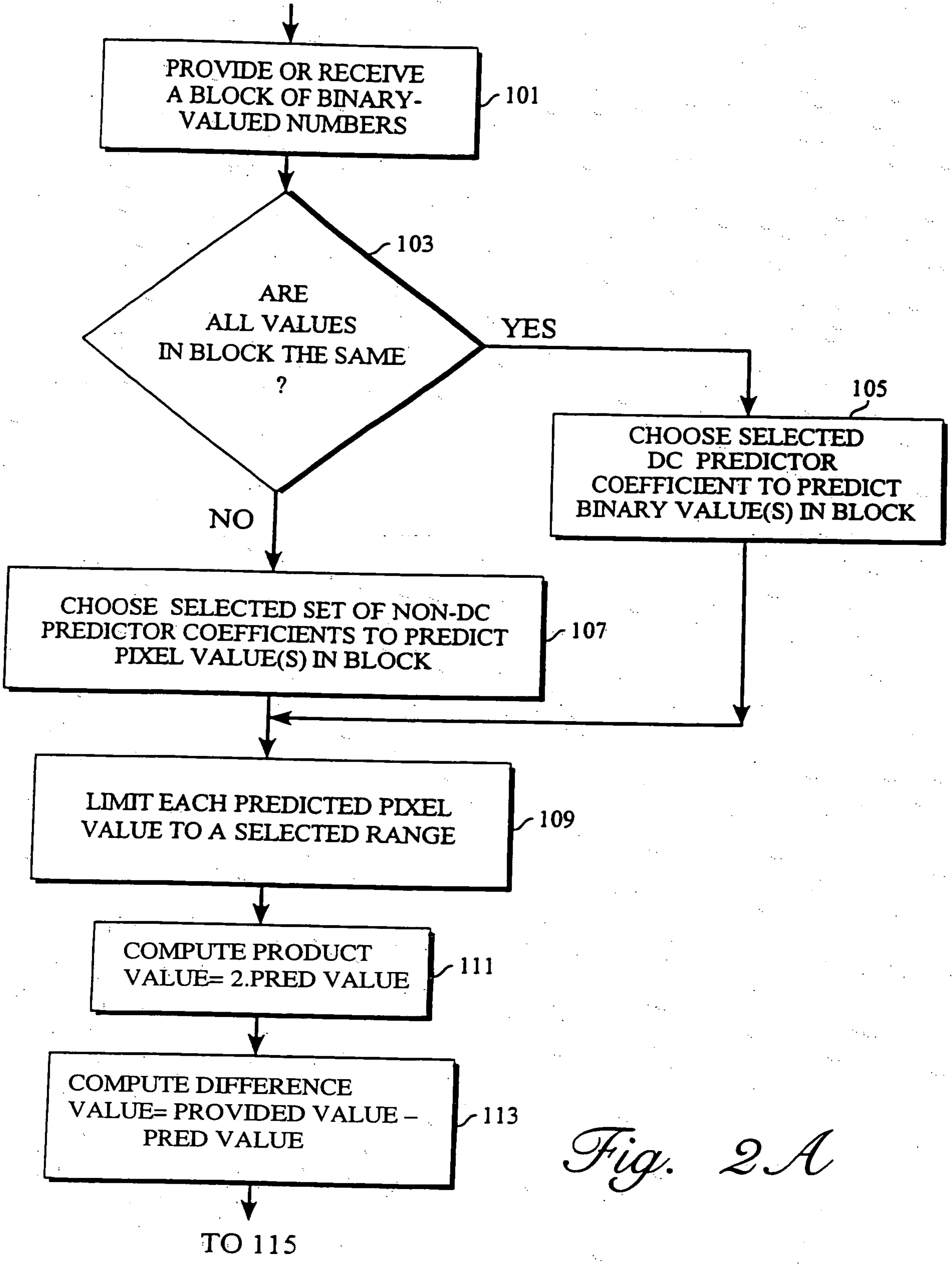

PROVIDE OR RECEIVE A BLOCK OF BINARY-VALUED NUMBERS
101
ARE ALL VALUES IN BLOCK THE SAME ?
103
YES
NO
105
CHOOSE SELECTED DC PREDICTOR COEFFICIENT TO PREDICT BINARY VALUE(S) IN BLOCK
CHOOSE SELECTED SET OF NON-DC PREDICTOR COEFFICIENTS TO PREDICT PIXEL VALUE(S) IN BLOCK
107
LIMIT EACH PREDICTED PIXEL VALUE TO A SELECTED RANGE
109
COMPUTE PRODUCT VALUE= 2.PRED VALUE
111
COMPUTE DIFFERENCE VALUE= PROVIDED VALUE – PRED VALUE
113
TO 115

Fig. 2A

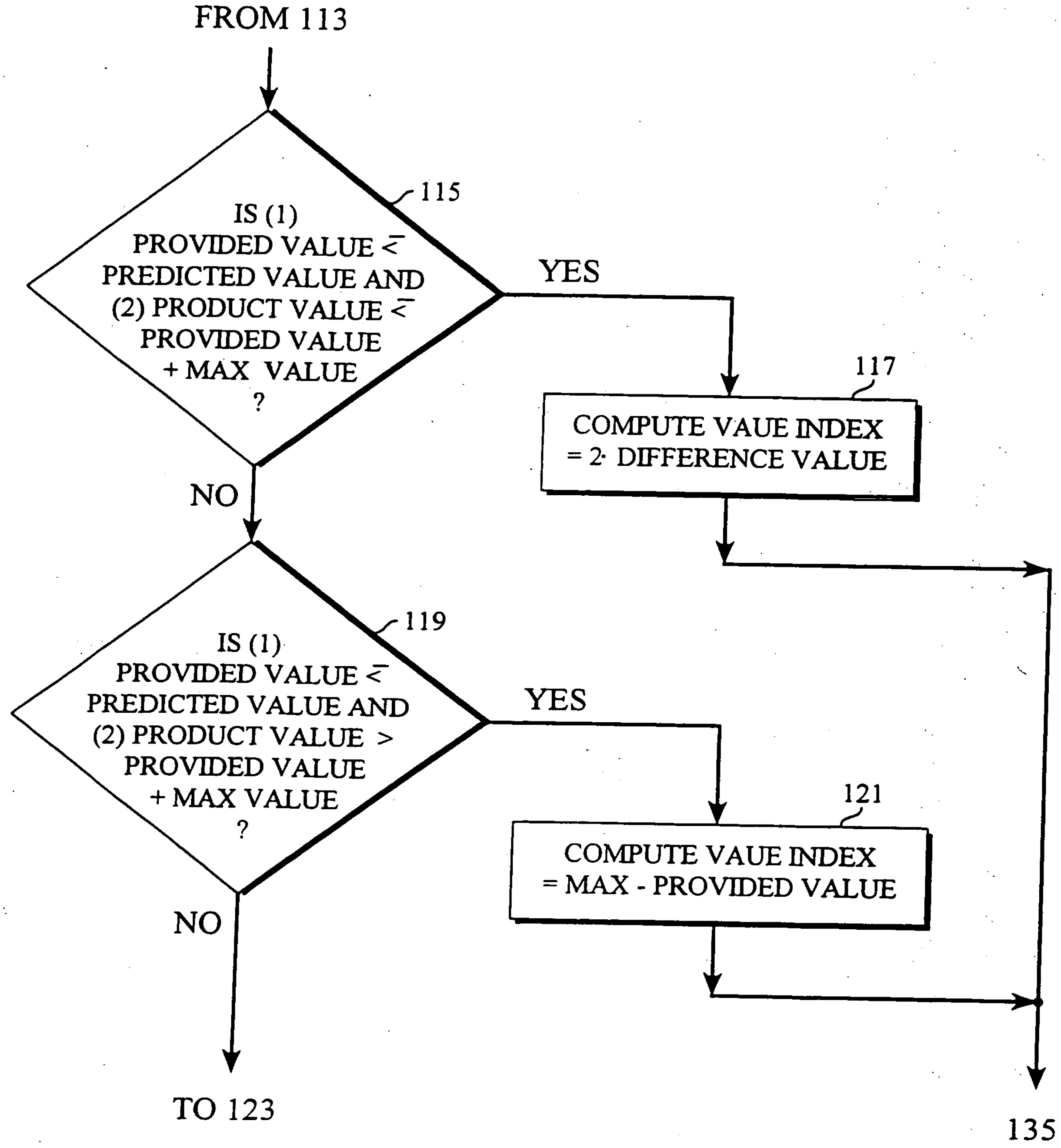

FROM 113
115
IS (1) PROVIDED VALUE ≤ PREDICTED VALUE AND (2) PRODUCT VALUE ≤ PROVIDED VALUE + MAX VALUE ?
YES
117
COMPUTE VAUE INDEX = 2· DIFFERENCE VALUE
NO
119
IS (1) PROVIDED VALUE ≤ PREDICTED VALUE AND (2) PRODUCT VALUE > PROVIDED VALUE + MAX VALUE ?
YES
121
COMPUTE VAUE INDEX = MAX - PROVIDED VALUE
NO
TO 123
135

Fig. 2B

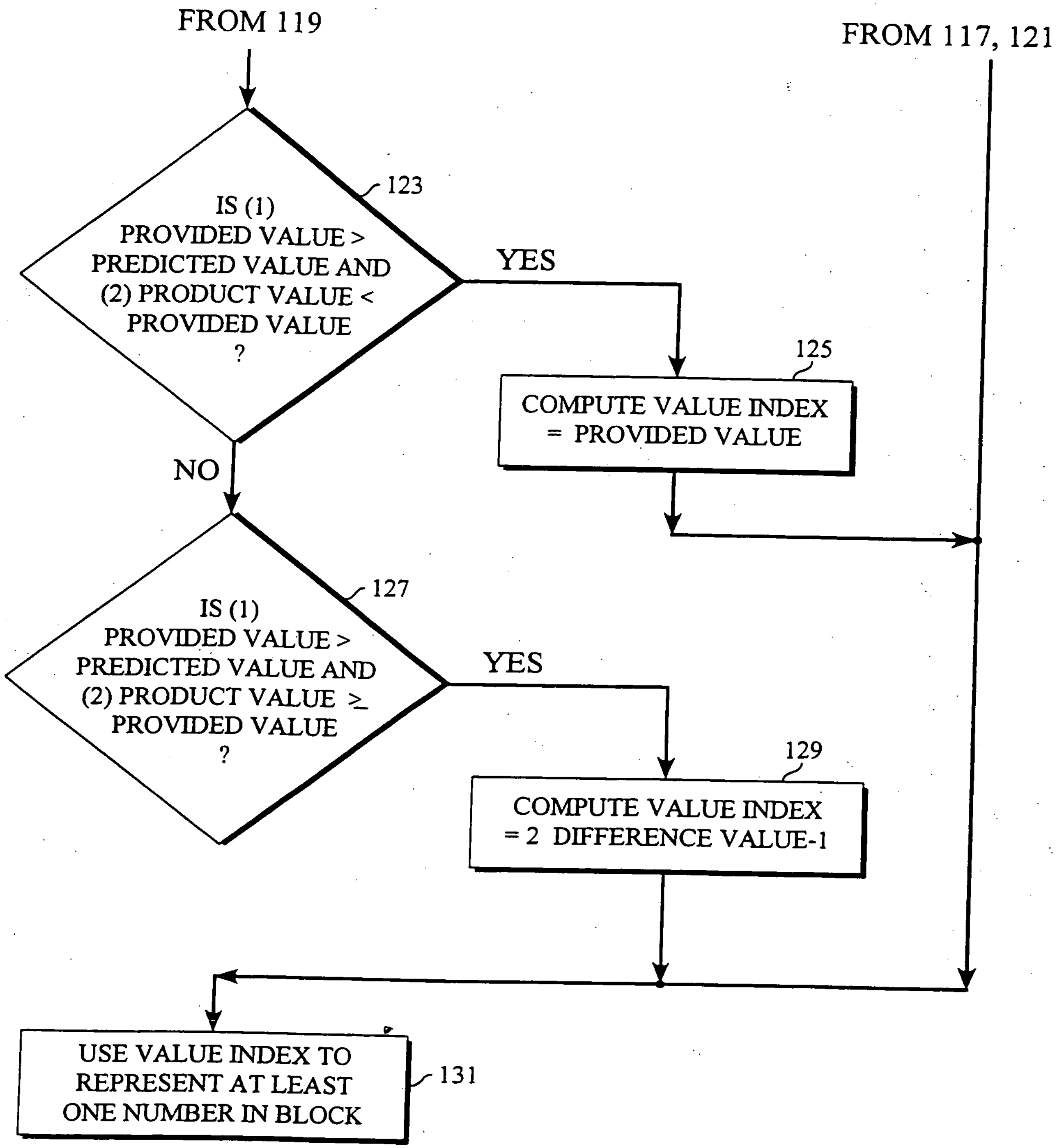

FROM 119
FROM 117, 121
123
IS (1) PROVIDED VALUE > PREDICTED VALUE AND (2) PRODUCT VALUE < PROVIDED VALUE ?
YES
125
COMPUTE VALUE INDEX = PROVIDED VALUE
NO
127
IS (1) PROVIDED VALUE > PREDICTED VALUE AND (2) PRODUCT VALUE ≥ PROVIDED VALUE ?
YES
129
COMPUTE VALUE INDEX = 2 DIFFERENCE VALUE-1
USE VALUE INDEX TO REPRESENT AT LEAST ONE NUMBER IN BLOCK
131

Fig. 2C

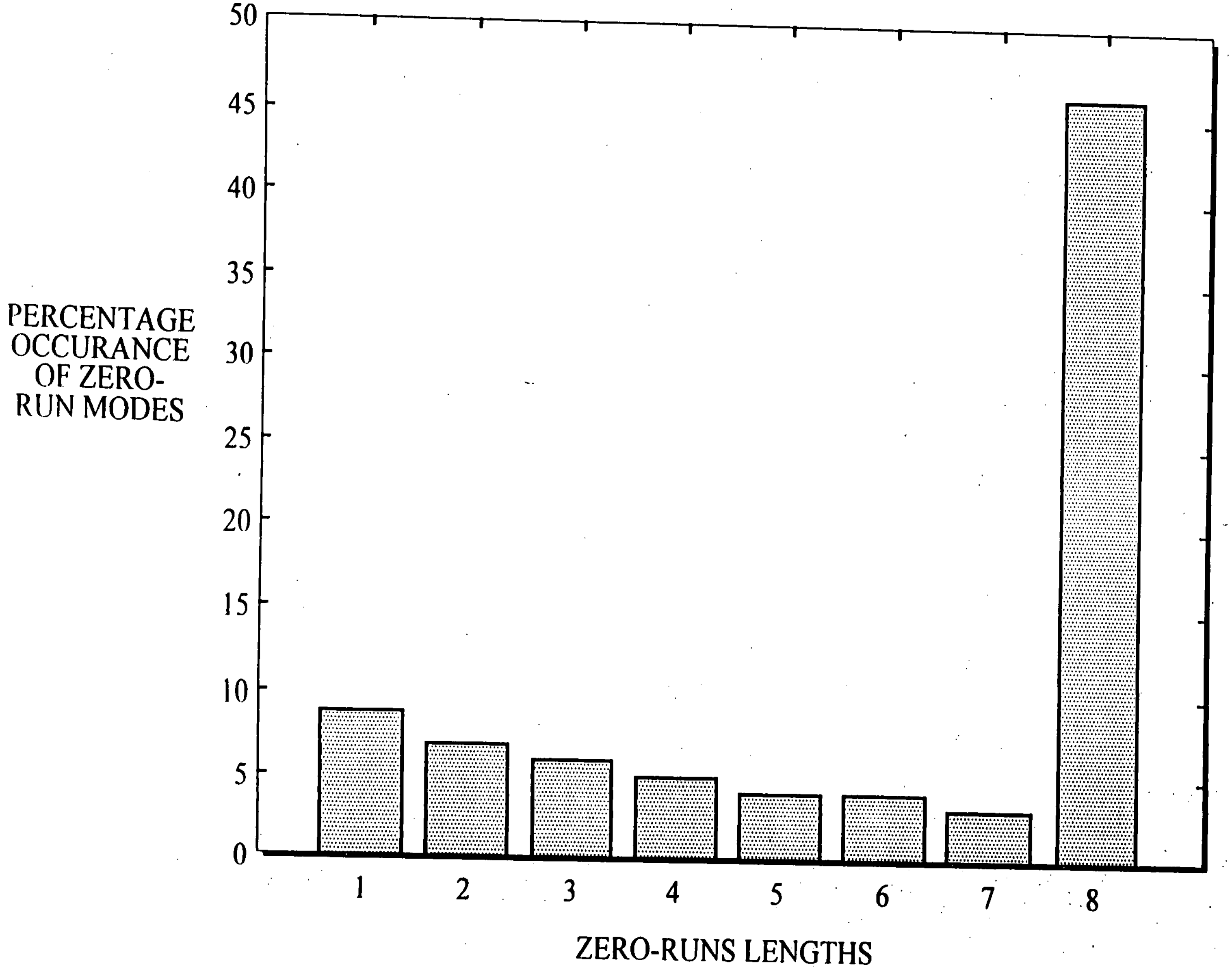
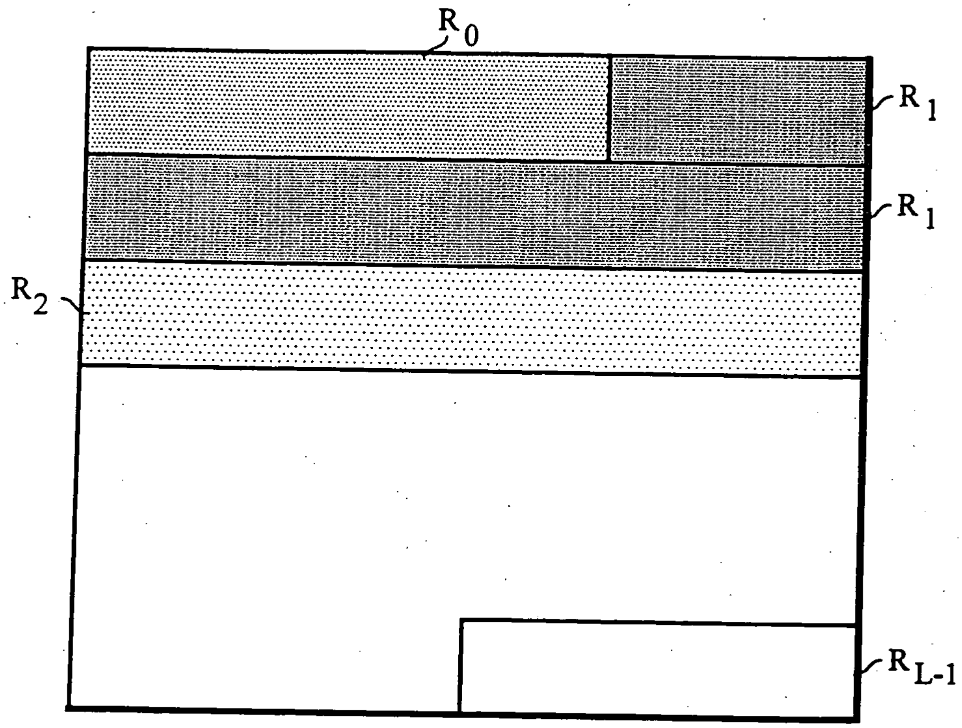
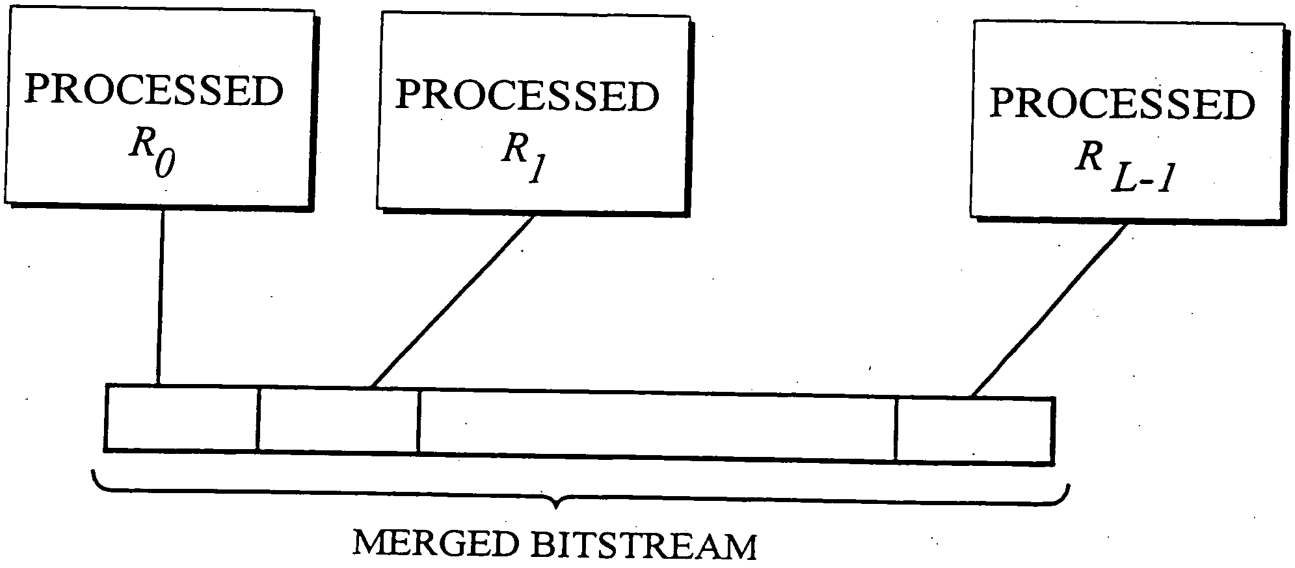

PERCENTAGE OCCURANCE OF ZERO-RUN MODES
50
45
40
35
30
25
20
15
10
5
0
1
2
3
4
5
6
7
8
ZERO-RUNS LENGTHS

Fig. 3



R_0
R_1
R_1
R_2
R_{L-1}

Fig. 4



PROCESSED R_0
PROCESSED R_1
PROCESSED R_{L-1}
MERGED BITSTREAM

Fig. 5

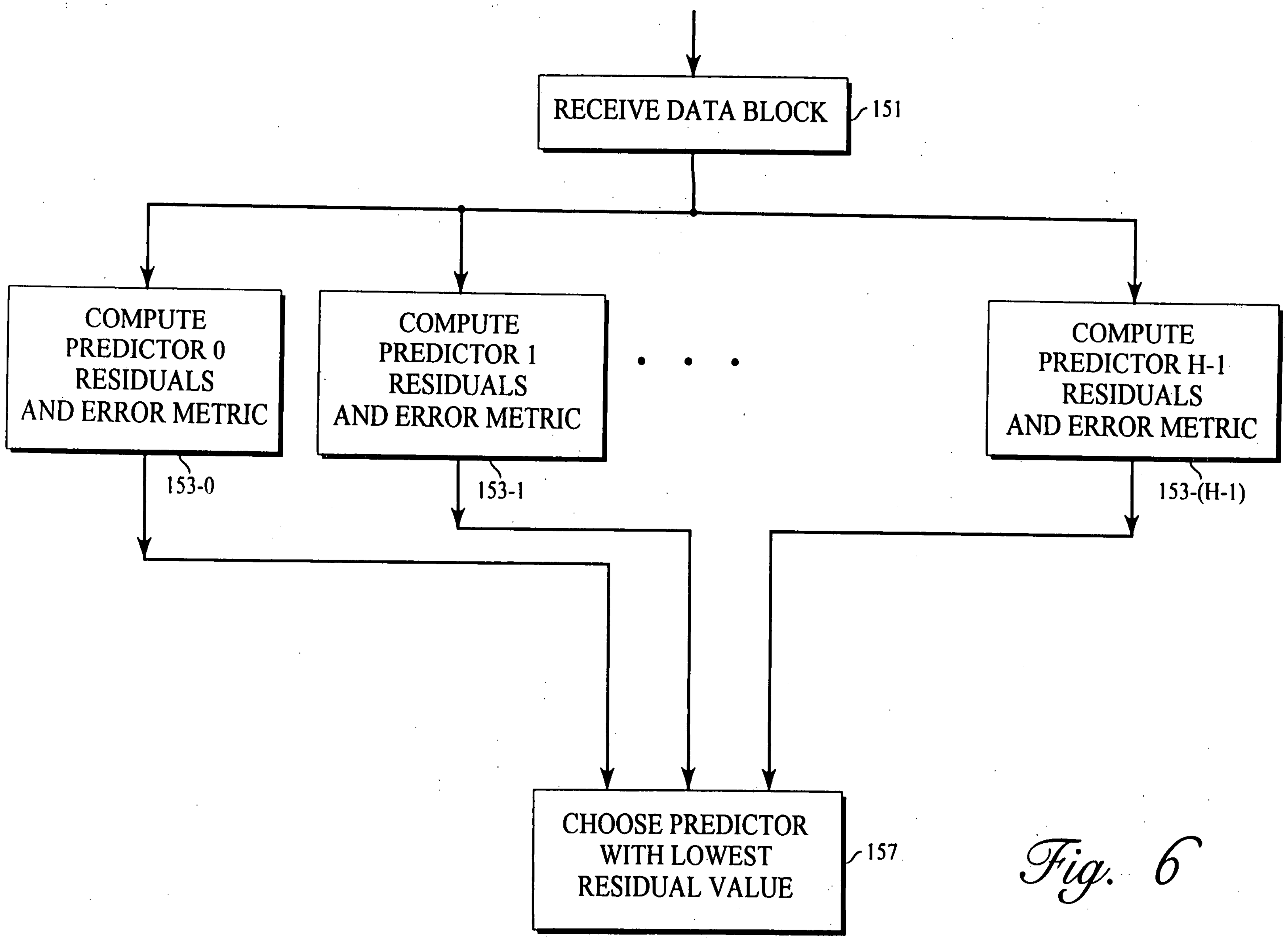

RECEIVE DATA BLOCK
151
COMPUTE PREDICTOR 0 RESIDUALS AND ERROR METRIC
153-0
COMPUTE PREDICTOR 1 RESIDUALS AND ERROR METRIC
153-1
COMPUTE PREDICTOR H-1 RESIDUALS AND ERROR METRIC
153-(H-1)
CHOOSE PREDICTOR WITH LOWEST RESIDUAL VALUE
157

Fig. 6

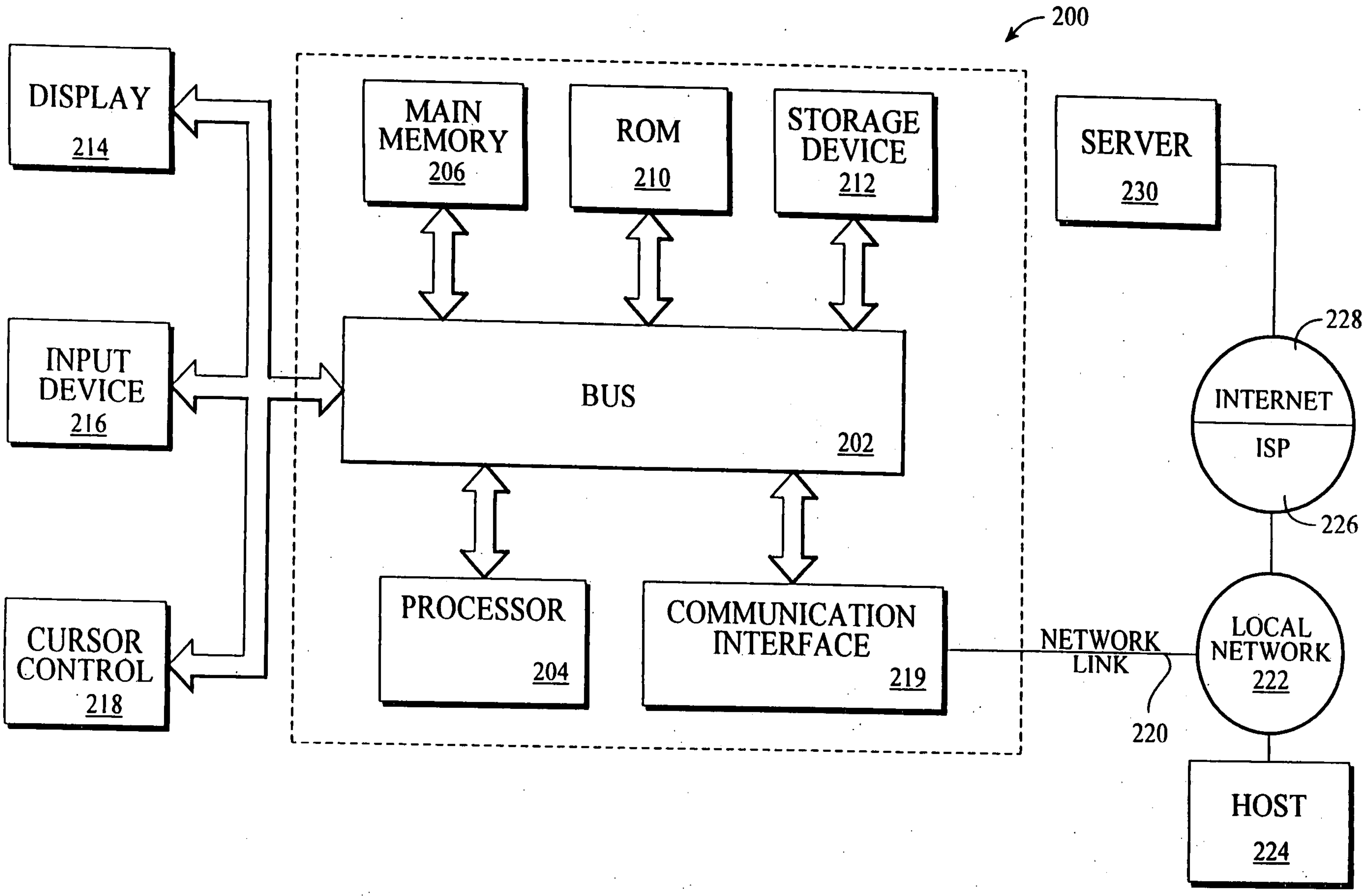

200
DISPLAY
214
INPUT
DEVICE
216
CURSOR
CONTROL
218
MAIN
MEMORY
206
ROM
210
STORAGE
DEVICE
212
BUS
202
PROCESSOR
204
COMMUNICATION
INTERFACE
219
SERVER
230
228
INTERNET
ISP
226
NETWORK
LINK
220
LOCAL
NETWORK
222
HOST
224

Fig. 7